UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,583	04/15/2004	Joachim Schmidt	2133.034USU	8182

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EXAMINER
LAFORGIA, CHRISTIAN A

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/825,583	SCHMIDT, JOACHIM
	Examiner	Art Unit
	Christian La Forgia	2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/16/04; 12/10/04; 7/22/05; 3/20/07.

DETAILED ACTION

1.   Claims 1-22 have been presented for examination.

Priority

2.   Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). *Information Disclosure Statement*

3.   The information disclosure statements (IDS) submitted on 16 August 2004, 10 December

2004, 22 July 2005, and 20 March 2007 are in compliance with the provisions of 37 CFR 1.97.

Accordingly, the examiner has considered the information disclosure statements.

4.   The non-patent literature listed on the IDS from 10 December 2004 and 20 March 2007

appear to be duplicates. The Examiner has considered the documents listed on the IDS of 20

March 2007.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claim 22 provides for the use of a transmission system according to claim 19, but, since

the claim does not set forth any steps involved in the method/process, it is unclear what

method/process applicant is intending to encompass. A claim is indefinite where it merely

recites a use without any active, positive steps delimiting how this use is actually practiced.

7.   Claim 22 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without

setting forth any steps involved in the process, results in an improper definition of a process, i.e.,

results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex*

parte Dunki, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F.

Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent

No. 6,516,435 to Tsunoda et al., hereinafter Tsunoda.

10.   As per claim 1, Tsunoda teaches a process for the packet-oriented transmission of data

under application of at least one transmission system with a parallel and/or serial network and/or

bus system with at least one user connected to it, the process, comprising:

transmitting the data (Figures 1 and 2 [information data]) and redundant information

based on the data (Figures 1 and 2 [redundant data], column 5, lines 56-64, the redundant packet

containing a transmitting side syndrome valued generated by performing a syndrome calculation

on the information to be transferred) (column 3, lines 41-46, i.e. transmitting from the

transmitting side to a receiving side, at least one information packet containing the information

to be transmitted and at least one redundant packet containing the transmitting side syndrome

value);

wherein the data and the redundant information are transmitted in different packets

(column 3, lines 41-46, i.e. transmitting from the transmitting side to a receiving side, at least

one information packet containing the information to be transmitted and at least one redundant

packet containing the transmitting side syndrome value).

11.   Tsunoda does not teach wherein the data is security relevant data.

12.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the data to be security relevant, since Tsunoda states at column 3, lines 24-26 that

the error correction method provides flexibility with regards to the state of the network, thereby

allowing a receiver to recover secure data without the use of retransmission when the network is

in a compromised state.

13.   Regarding claim 2, Tsunoda teaches that the redundant information is encoded (Figures 1

and 2 [redundant data], column 8, lines 4-25).

14.   Regarding claim 3, Tsunoda teaches that the redundant information is a check sum (CRC)

calculated over the data (column 5, lines 30-34, column 12, lines 57-67, column 14, lines 6-14,

i.e. error correcting code).

15.   Regarding claim 4, Tsunoda does not teach that the security-relevant data is selected from

the group consisting of user data, check data, and/or control data.

16.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the security-relevant data is selected from the group consisting of user data, check

data, and/or control data, since Tsunoda states at column 3, lines 24-26 that the error correction

method provides flexibility with regards to the state of the network, thereby allowing a receiver

to recover secure data without the use of retransmission when the network is in a compromised

state.

17.   Regarding claim 5, Tsunoda teaches transmitting several packets within a predefined

(superset) frame structure (column 13, lines 58-67).

18.   With regards to claim 6, Tsunoda teaches wherein the packets within a predefined

(superset) frame structure include the security-relevant data and the redundant information that

are allocated to each other (column 13, lines 58-67).

19.   Concerning claim 7, Tsunoda teaches wherein the packets with the security-relevant data

and the redundant information that are allocated to each other are transmitted in a parallel or

serial way (column 16, lines 32-40, column 17, lines 27-36, i.e. LANs typically use Ethernet (as

disclosed in the Applicant's specification), and the Internet transmits packets in parallel).

20.   Concerning claim 8, Tsunoda teaches wherein the packets with the data and the

redundant information that are allocated to each other are transmitted in strings or separately

(column 3, lines 41-46, i.e. transmitting from the transmitting side to a receiving side, at least

one information packet containing the information to be transmitted and at least one redundant

packet containing the transmitting side syndrome value).

21.   Regarding claim 9, Tsunoda teaches wherein the packets include an addressing block

and/or an identification code for their logical allocation (column 13, lines 58-67, column 14,

lines 1-5, i.e. ID or sequence number).

22.   Claims 10-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent

No. 5,608,738 to Matsushita, hereinafter Matsushita.

23.   As per claims 10, Matsushita teaches a device for a transmission system with at least one

parallel and/or serial network and/or bus system, for the packet-oriented transmission of security-

relevant data comprising:

        means, arranged on the side of the sender, for the packet-oriented embedding of the data

and the allocated redundant information into different packets (Figure 1 [block 20], column 2,

lines 46-67, claims 4 and 8).

24.   Matsushita does not teach wherein the data is security-relevant data.

25.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the data to be security data, since Matsushita states at column 1, lines 42-44 that

the invention can reproduce a lost packet, thereby preventing the secure-relevant data from being

retransmitted over a network.

26.   Regarding claim 11, Matsushita teaches an encoding device for the encoding of the

redundant information (Figures 2E, 2F, 2G, 3E, 3F, 3G, column 3, lines 7-47).

27.   Regarding claim 12, Matsushita teaches wherein the means for embedding are allocated

means for the generation of the redundant information with the same number of bits (n) as the

security-relevant data to be transmitted (Figures 2A-2G, 3A-3G, Abstract, column 3, lines 41-

45).

28.   Regarding claim 13, Matsushita teaches wherein the means for the generation and/or

embedding are designed such that any possible combination of the security-oriented data of a

packet unambiguously results in exactly one of the possible combinations with the allocated

redundant information within the packet (Abstract, i.e. each bit information of the error

correction code portion is assigned as bit information of a corresponding error correction code

packet at the same bit position as the bit position of each data packet).

29.   Regarding claim 14, Matsushita teaches means arranged on the side of the receiver for

the verification of an error-free data transmission based on the data and the allocated redundant

information embedded in different packets (Figure 1 [blocks 21 and 22], column 5, lines 17-43).

30.   With regards to claim 15, Matsushita teaches wherein the means for the verification are

allocated means for reading out and allocating data and allocated redundant information received

in different packets (Figure 1 [blocks 21 and 22], column 2, line 46 to column 3, line 6).

31.   Regarding claim 16, Matsushita teaches wherein several packets with the data and/or the allocated redundant information are capable of being transmitted within a predefined (superset) frame structure (Abstract; column 1, lines 45-67).

32.   Regarding claim 17, Matsushita teaches means for the packet-oriented embedding and readout of addressing blocks and/or identification codes for the logical allocation of individual packets and/or their contents to each other (Figure 1 [blocks 21 and 22], column 2, line 46 to column 3, line 6).

33.   Regarding claim 18, Matsushita teaches means are allocated to slave devices and/or a master device (Figure 1 [blocks 1, 2], column 2, lines 17-45).

34.   As per claim 19, Matsushita teaches a transmission system comprising:

at least one parallel and/or serial network and/or bus system (Figure 1 [element 3], column 2, lines 17-45); and

at least one device according to claim 10 (Figure 1 [blocks 1, 2], column 2, lines 17-45).

35.   Regarding claim 20, Matsushita teaches wherein the network and/or bus system is at least one ring-, line-, star- and/or tree-shaped network and/or bus structure (Figure 1 [element 3], column 2, lines 17-45). The shape of the network is interchangeable amongst the choices listed.

36.   Regarding claim 21, Matsushita teaches wherein the network and/or bus system is at least

one selected from the group consisting of Interbus, one Ethernet, one Profibus, and one CAN (Figure 1 [element 3], column 2, lines 17-45).

37.   Regarding claim 22, Matsushita does not teach the use of a transmission system according to claim 19 in a field selected from the group consisting of building control technology, process industry, manufacturing industry, passenger transportation, and operation of an automation plant.

38.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the transmission system in one of a building control technology, process industry, manufacturing industry, passenger transportation, and operation of an automation plant, since Matsushita states at column 1, lines 37-41 that it provides an effective error correction technique with respect to errors in packets.

Conclusion

39.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

40.   The following patents are cited to further show the state of the art with respect to error correction, such as:

United States Patent No. 6,556,588 to Wan et al., which is cited to show forward error correction in MPEG-2 streams.

United States Patent Application Publication No. 2002/0159454 to Delmas, which is cited to show protecting data packets from errors.

41.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792.

The examiner can normally be reached on Monday thru Thursday 7-5.

42.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

43.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christian LaForgia
Patent Examiner
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